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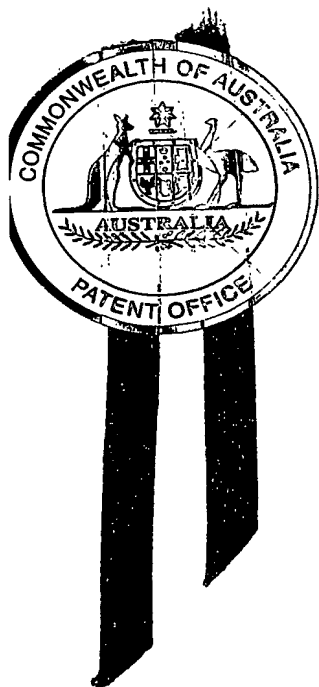
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I, JONNE YABSLEY, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2002951772 for a patent by ANTHONY DURRELL as filed on 26 September 2002.



WITNESS my hand this  
Thirteenth day of October 2003

*J R Yabsley*

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TEAM LEADER EXAMINATION  
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# **AUSTRALIA**

## **Patents Act 1990**

**Anthony Durrell**

### **PROVISIONAL SPECIFICATION**

*Invention Title:*

*Psychometric instruments and methods for mood analysis,  
psychoeducation and therapy*

The invention is described in the following statement:

### Field of the Invention

The present invention relates to a method of diagnosing, analysing and/or treating the mood state of a person and system for use in the method.

5

### Background of the Invention

Mood is generally understood to be the prevailing tone or feeling of a person. Many terms are used to describe mood with common terms such as "Happy", "Sad", "Anger" and "Fear" being just some of the terms used by persons to describe their mood.

It is normal to have changes of mood and even occasional episodes of extreme happiness, sadness, anger and fear. A person can be considered to be suffering a mood disorder, which are also known as affective disorders, if their moods are characterised by extremes in both intensity and type. Even intense symptoms of affective disorders are often misinterpreted as merely mood swings and worse, affective disorders are sometimes considered by some as personality flaws rather than a real medical condition. For example, chronic sadness can lead to depression while extreme swings between elation and sadness is often considered indicative of manic depression or bipolar disorder. Extreme levels of fear can lead to panic attacks while extreme anger can lead to rage and outbreaks of violent behaviour by the person.

It has been suggested that depression and bipolar disorders strike one in seven of the population and that somewhere between 7-14% of children will experience an episode of major depression before the age of 15.

Children and adults with mood disorders often do not cope well in society. When depressed, persons can experience a loss of interest and lack of enjoyment in life, while for a person with bipolar disorder, the manic swings can create a disruptive influence on aspects of their life and the lives of those around them.

Mood disorders, such as depression, are generally diagnosed by physicians through consultation and use of questions, questionnaires and

checklists. While useful, such approaches are often not suitable for children and can be even unsatisfactory for adults.

Any discussion of documents, acts, materials, devices, articles or the like  
5 which has been included in the present specification is solely for the purpose of providing a context for the present invention. It is not to be taken as an admission that any or all of these matters form part of the prior art base or were common general knowledge in the field relevant to the present invention as it existed before the priority date of each claim of this application.

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### Summary of the Invention

Throughout this specification the word "comprise", or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a  
15 stated element, integer or step, or group of elements, integers or steps, but not the exclusion of any other element, integer or step, or group of elements, integers or steps.

The present inventor proposes a theory that four primary moods (ie.  
20 happy, sad, fear and anger) can combine in various combinations to generate a multitude of secondary moods. A person's mood state will typically be a secondary mood state that is based on some combination of these four primary moods. This model, which the inventor has termed the "Quaternary Mood Model", has the potential to provide an integrated and simple approach to  
25 understanding mood health and mood disorders. The neuroanatomical architecture of the bi-hemispheric and symmetrical human brain supports this model. Clinical and research observations from Transcranial Magnetic Stimulation and Deep Brain Stimulation studies support a relationship between neural polarisation and emotional state. Moreover, clinical experience and  
30 observation supports the Quaternary division of basic mood states given that four qualitatively distinct extremes of Emotion are already well recognised, being "Mania", "Depression", "Rage" and "Panic".

The present invention is directed to a new process for determining,  
35 monitoring, analysing and/or treating the mood state of a person. The process can, advantageously, be used on and by children and provides a method of

determining current mood state. By being aware of their mood state, by determining triggers for mood state change, and by monitoring changes in mood state over time, the present invention provides the person or their consulting physician with insight into how to treat, modify and/or handle moods  
5 before they transform into serious psychiatric disorders, such as depression or bipolar disorder. In this regard, the present inventor has coined the term "Emotional Behavioural Therapy" or EBT to describe the potential treatment offered by the present invention.

10 The present invention is directed to a method of determining the mood of a person. It is also directed to tools and systems that can be used by the person alone, or in consultation with a physician, to determine their mood state.

In one aspect, the present invention is a method of graphically  
15 representing a mood state of a person, the method comprising the steps of:

- (i) having the person think about a particular subject;
- (ii) having said person consider the degree to which a primary mood is  
20 representative of their feelings about said subject; and
- (iii) having the person graphically represent said degree to which a primary mood is representative of their feelings about said subject.

25 In step (i), the person may choose to think about or focus on a particular subject or may be prompted to do so by their physician. The step of focussing on mood, or what the inventor calls "mood-focus", may also be prompted by use of a system, such as that defined below, requesting that the person take this step. In the case of an adult, the subject may be something familiar to that  
30 person such as their workplace, or their human relationships. In respect of children, the subject may be school, a sport, family members, or a particular friend.

In one embodiment of this aspect, the method may include a step of  
35 having the person identify a colour for each of one or more of the primary moods. In the method, the person will normally be presented with a range of

colours to which can be assigned a primary mood. These colours include red, blue, yellow, green, black, and orange. Other colours can be envisaged.

The person will normally be asked to assign a colour to a primary mood.

- 5 Typically, the person will be asked to assign a colour to four primary moods. In the case of children, the primary moods mentioned will typically be "Happy", "Sad", "Fear" and "Anger". In the case of adults, the four primary moods may be presented in the same way or as "Delight", "Reflection", "Caution" and "Assertion".

10

It is generally regarded that there is no correct colour to identify these primary moods. The method does though allow the person to select which colour is representative of which primary mood. Changes in the selection of colour for a particular primary mood may be noted by the physician and used to

15 monitor changes in mood state.

In the final step of the method, a number of techniques can be used to graphically represent the degree to which the person considers a primary mood is representative to the particular subject the person has focussed on in step (i).

20

- In one embodiment, a pre-defined area can be provided to the person. The person can then be asked to colour in a portion of that area that is representative of the degree to which the person considers the primary mood represented by that colour is applicable to their feelings on the subject of step
- 25 (i). For example, a child that enjoys school may choose to fill a significant portion of the pre-defined area with a colour that has been selected by that child as representative of the primary mood "Happy", with much less of the area coloured in the colour selected for the primary mood state of "Sad". For a child that does not enjoy school or is experiencing bullying at school, the reverse may be expected. This process is repeated for each of the primary
- 30 moods until the pre-defined area is full.

- In one embodiment, the predefined area can be a circle. Other shapes can, however, be envisaged. A circle is preferred as the person can be asked
- 35 to colour in the circle in a manner that results in the circle looking like a pie

chart. This pie-chart or "mood-pie" provides a ready means of assessing changes in mood state.

The process can be repeated on one or more occasions over a period of time. The period of time might constitute days, weeks, months or even years. Preferably, the person is asked to think about or mood-focus on the same subject each time and colour in a mood-pie representative of the primary moods. Any changes in the mood-pie over the period of time may be used as a guide to understanding the change in mood state of the person over that period of time.

In another embodiment, the graphical representation can be plotted on a Cartesian plane (or xy plane). For example, the person may be asked to assign a number between 0 and 10 that is representative of the degree to which a primary mood is representative of their feelings about said subject. This may be repeated for each of the four primary moods defined herein.

The numbers chosen by the person are preferably plotted on the axes of the Cartesian plane. In one embodiment, the positive side of the y-axis can be representative of "Happy" (or "Delight") while the negative side of the y-axis is representative of "Sad" (or "Reflection"). The positive side of the x-axis can be representative of the primary mood "Fear" (or "Caution") while the negative side of the x-axis can be representative of "Anger" (or "Assertion"). The use of the axes of the Cartesian plane in other combinations can be envisaged. For example, the primary moods "Happy" and "Sad" can instead be plotted on the x-axis while the primary moods "Fear" and "Anger" can be plotted on the y-axis.

In these embodiments, the person in focussing on a particular subject can select a number between 0 and 10 for each primary mood and then plot this number on the axes of the Cartesian plane. In one embodiment, a coloured line can be drawn from the origin of the Cartesian plane to the plot. The colour of this line is preferably selected by the person as being representative of that mood state. This process can be repeated for each of the primary moods. The result is four coloured lines of individual length extending from the origin of the Cartesian plane. This set of four lines or "mood-compass" presents in graphical form the mood state of the person. As

with the mood-pie described above, the process can be repeated on one or more occasions over a period of time, with the period of time constituting days, weeks, months or even years. Preferably, the person is asked to think about or mood-focus on the same subject each time and plot their primary moods and  
5 form a mood-compass. Any changes in the mood-compass over the period of time may be used as a guide to understanding the change in mood state of the person over that period of time.

It will be appreciated that in forming the mood-compass, the number  
10 does not need to be between 0 and 10 and can instead be between any two numbers. In another embodiment, for example, the person may select a number between 0 and 100.

In one embodiment, a quadrangle can then be formed by joining the  
15 plots made on the Cartesian plane. This four-sided figure or "mood-quadrangle" presents in graphical form the mood state of the person. As with the mood-pie described above, the process can be repeated on one or more occasions over a period of time, with the period of time constituting days, weeks, months or even years. Preferably, the person is asked to think about or  
20 mood-focus on the same subject each time and plot their primary moods and form a mood-quadrangle. Any changes in the mood-quadrangle (eg. shape and/or area) over the period of time may be used as a guide to understanding the change in mood state of the person over that period of time.

25 In a still further embodiment, the graphical representation can be plotted on a Cartesian space (or xyz-space) instead of just a Cartesian plane. In this regard, one or two of the primary moods may be plotted on a z axis of the Cartesian space. This has the potential of allowing the person to form three-dimensional representations of their mood state. As with the mood-pie  
30 described above, the process can be repeated on one or more occasions over a period of time, with the period of time constituting days, weeks, months or even years. Preferably, the person is asked to think about or mood-focus on the same subject each time and plot their primary moods on the Cartesian space. Any changes in the shape of the three-dimensional representation over  
35 the period of time may be used as a guide to understanding the change in mood state of the person over that period of time.



In a still further embodiment, the person can be presented with a set of coloured rings of varying diameters. In using these rings, the person can select a ring colour representative of a particular primary mood and then select from a range of sizes a ring of a particular diameter representative of the degree to which a primary mood is representative of their feelings about said subject. Generally, the greater the proportion a primary mood is representative of their feelings about said subject, the larger the ring diameter.

In a preferred embodiment, the person will be instructed to put together the set of concentric rings by starting with what they regard as their predominant primary mood about said subject and then work inwardly placing smaller diameter rings representative of the other primary moods within the firstly selected largest ring to form a graphical representation of their mood state. The rings or "mood-rings" once put together provide a graphical representation of the mood state of the person.

As with the mood-pie described above, the process can be repeated on one or more occasions over a period of time, with the period of time constituting days, weeks, months or even years. Again, preferably, the person is asked to think about or mood-focus on the same subject each time and select and put together the mood-rings. Any changes in the mood-rings over the period of time may be used as a guide to understanding the change in mood state of the person over that period of time.

In a further aspect, the present invention is an electronic device for use in graphically representing a mood state of a person, the device comprising a graphical representation device that allows use by a person of colour and dimension to graphically represent the degree to which a primary mood is representative of their feelings about a selected subject.

In this aspect, the electronic means preferably comprises a computer having a microprocessor, a visual display device, and an input device. In a further embodiment, the computer preferably has a data storage device.

In this embodiment, the electronic means can be selected from the group comprising a desktop computer, a laptop computer, a notebook type computer, a personal organiser, and a cellular telephone.

- 5       The electronic means preferably uses software instructions to run a programme that allows a person to graphically represent their mood state.

In one embodiment, the programme can ask the person to input identification details. These details can be stored by the computer and used to  
10   allow later comparison of that particular person's mood state as determined at different times by use of the method as defined herein.

In a further embodiment, the programme can display blocks of colour on the visual display device and then ask the person to enter which colour is  
15   representative of a particular primary mood. The blocks of colour can comprise coloured dots depicted on a screen. A question or request can be displayed on the screen. In addition to or instead of this, the question or request can be output through a set of speakers or earphones to the person. The question or request would be repeated four times for each of the primary moods. That is,  
20   the programme might display the following series of requests:

- Choose your colour for "Happy" (or "Delight").
- Choose your colour for "Sad" (or "Reflection").
- Choose your colour for "Anger" (or "Caution").
- 25   - Choose your colour for "Fear" (or "Assertion").

Prior to or after displaying these requests, the programme or the consulting physician might ask the person to mood-focus on a particular subject. If desired, the subject might be entered into the computer using the  
30   input device for later retrieval or comparison with other tests.

In this aspect, the input device might comprise a keyboard, a keypad, a mouse, a joystick, a stylus, a touch screen, or any other device used to input data into a computer.

Once selected, the programme can then provide a means for the person to graphically represent their mood state. In one embodiment, the display can comprise a shape that is able to be coloured in using the input device. In one embodiment, the shape might comprise a circle depicted on a screen which  
5 can then be coloured in using a stylus and a touch screen. In this regard, the touch screen of the computer recognises the location of the stylus and colours in the shape on the screen in accordance with the movements of the stylus by the person.

10 In this aspect, the computer may pose the statement "Please colour in a portion of the shape (circle) that is representative of how happy you feel" or similar. Once done, the process would be repeated for the other primary moods until the shape is filled.

15 The result is an electronically generated pie-chart or mood-pie that is representative of the mood state of the person. This mood-pie can be stored in the storage device for later review and/or comparison with other tests.

In another embodiment, the electronic means can display one or more  
20 Cartesian planes that allow the person to plot a mood-compass and/or mood-quadrangle as defined herein. In one embodiment, the computer can automatically generate a mood-quadrangle on completion of the mood-compass by the person. The mood-compass or mood-quadrangle can be stored in the storage device for later review and/or comparison with other tests.

25 In yet another embodiment, the programme can allow the person to form a mood-ring as already defined by selecting coloured rings of desired dimensions on the screen of the computer. The mood-ring so formed can be stored in the storage device for later review and/or comparison with other tests.

30 In addition to providing a means of graphically representing a mood state, the computer can be used to analyse the graphical representations and provide statistical analyses thereof. For example, the computer can allocate a score to each primary mood based on the graphical representation such that  
35 the total score adds to 10, or 100, or some other number. A so-called FASH (Fear/Anger/Sad/Happy) score or index can then be output by the computer.

In a still further aspect, the present invention is a system for use in graphically representing a mood state of a person. The system preferably comprises a graphical representation device that allows use by the person of  
5 colour and dimension to graphically represent the degree to which a primary mood is representative of their feelings about a selected subject.

In one embodiment of this aspect, the graphical representation device can comprise paper having one or more circles or other shapes provided  
10 thereon which are able to be coloured in to form a mood-pie as defined herein. In another embodiment, the paper can have one or more Cartesian planes or Cartesian spaces provided thereon which can be used to form mood-compasses and/or mood-quadrangles as defined herein.

15 In this regard, the system preferably includes a set of coloured pencils that can be selected by the person, with the colour being representative of a primary mood.

In another embodiment, the graphical representation device can  
20 comprise a series of coloured rings. The series preferably includes at least four different coloured sets of rings, which set comprising a relatively small central disc and three other rings, each of increasing dimension. In one embodiment, the rings are preferably annular with the central disc being circular. In another embodiment, the rings can be formed of another shape, such as a square,  
25 rectangle, and so on.

In a preferred embodiment, the respective rings of a particular colour are sized such that they are concentrically positionable together. In this regard, the different coloured sets are preferably compatible in dimension so that the  
30 person can build up a series of concentric rings and a central disc representative of their mood state as defined herein.

The present invention provides a person (with appropriate training), or a physician, with a means of determining mood state and allowing monitoring and  
35 comparison of mood state over periods of time. The information provided by the present invention can then be used by the person and/or physician as one

input in considering techniques for changing mood. In particular, it provides a person and their physician with a means of readily noting that their mood state has deteriorated and taking steps to adjust their mood state before the onset of more serious disorders such as depression. It also provides a means of  
5 delivering positive feedback to a person attempting to improve their mood and so provide encouragement to continue the process.

### Brief Description of the Drawings

10 By way of example only, a preferred embodiment of the invention is now described with reference to the accompanying drawings, in which:

Fig.1 is a flow chart of a method according to the present invention for determining the mood state of a person;

15

Fig. 2 is a view of an electronic display screen of a computer running a programme that performs the method depicted in Fig. 1;

Fig. 3 is a view of the display screen of the organiser of Fig. 2 depicting  
20 coloured dots that can be selected as representative of one of the four primary moods defined herein;

Fig. 4 is a view of the display of Fig. 3 depicting a circle being coloured in with a colour that has been selected as representative of one of the four  
25 primary moods;

Fig. 5 is a view of a mood pie formed using the programme;

Fig. 6 is a view of a mood-compass formed on a Cartesian plane using  
30 the programme;

Fig. 7 is a mood-quadrangle formed using the programme;

Fig. 8 is a mood compass formed in a Cartesian space using the  
35 programme;

Fig. 9 is a three dimensional representation formed in a Cartesian space using the programme;

Fig. 10 is a mood-ring made by using the method according to the  
5 present invention; and

Figs 11(i) to 11(vii) are outputs of a computer running the system according to the present invention.

#### 10 Preferred Mode of Carrying out the Invention

As described herein, the present inventor proposes a theory that four primary moods (ie. Happy, Sad, Fear and Anger) can combine in various combinations to generate a multitude of secondary moods. A person's mood  
15 state will typically be a secondary mood state that is based on some combination of these four primary moods. This model which the inventor has termed the "Quaternary Mood Model" has the potential to provide an integrated and simple approach to understanding mood. The neuroanatomical architecture of the bi-hemispheric and symmetrical human brain supports this  
20 model.

A flow chart depicting the steps of a method of graphically representing the mood state of a person is depicted generally as 10 in Fig. 1. The method  
10 comprises an early step 11 of having the person think about or mood-focus on a particular subject. In this regard, the person may choose to think about or  
25 focus on a particular subject or may be prompted to do so by their physician. In the case of an adult, the subject may be something familiar to that person such as their workplace, or their human relationships. In respect of children, the subject may be school, a sport, family members, or a particular friend.

30

The method further comprises a step 12 in which the person considers the degree to which a primary mood is representative of their feelings about the subject selected at step 11. They may be prompted to do this by their physician, may be trained to do it, or may be prompted to do it by a system  
35 described herein.

Still further, the method comprises a step 13 in which the person graphically represents the degree to which a primary mood is representative of their feelings about the subject selected at step 11.

5 In the depicted flow chart, the method 10 includes an additional step 14 in which the person undergoing the diagnosis identifies a colour for each of a number of primary moods. In the method 10, the person will normally be presented with a range of colours to which can be assigned a primary mood. These colours include red, blue, yellow, green, black, and orange. Other  
10 colours can be envisaged.

In depicted step 14, the person is asked to assign a colour to four primary moods. In the case of children, the primary moods will typically be represented by the words "Happy", "Sad", "Fear" and "Anger". In the case of  
15 adults, the four primary moods may be presented in less confronting language as "Delight", "Reflection", "Caution" and "Assertion".

It is generally regarded that there is no correct colour to identify these primary moods. The method 10 does though allow the person to select which  
20 colour is representative of which primary mood. Changes in the selection of colour for a particular primary mood at step 14 may be noted by the physician and used to monitor changes in mood state.

A number of techniques can be used to perform step 13 in which the  
25 person graphically represents the degree to which they consider a primary mood is representative to the particular subject the person has focussed on at step 11.

In one arrangement, steps 13 and 14 of method 10 can be performed  
30 using an electronic device, such as the handheld computer 20 depicted in Fig. 2. The device 20 allows a person to use colour and dimension to graphically represent the degree to which a primary mood is representative of their feelings about a selected subject. Example of what may be displayed on the screen of the computer are provided in Figs 11(i) to 11(vii).

While the depicted device 20 is a handheld computer, steps 13 and 14 of the method 10 could be performed on a desktop computer, a laptop computer, a notebook type computer, a personal organiser, or a cellular telephone. In another embodiment, a system comprising paper and pencils could be utilised  
 5 and will be described as appropriate below.

The depicted device 20 has a microprocessor housed in a case 21, a visual display touch screen 22, and an touch stylus 23. In a further embodiment, the computer preferably has a data storage device. The device  
 10 20 uses software instructions to run a programme that allows a person to graphically represent their mood state.

Before performing the method 10, the programme running on device 20 can welcome the person to "Mood School" as depicted in Fig. 11(i) and then  
 15 ask the person using the device to input identification details, such as their name and/or a password. These details can be stored by the device 20 and used to allow later comparison of that particular person's mood state as determined on different occasions by use of the method 10.

As depicted in Fig. 3, Fig. 11(ii) and Fig. 11(iii), the programme can display on screen 22 coloured dots 24 and then ask the person to enter which colour is representative of a particular primary mood. Each of the dots 24 in the depicted embodiment are a different colour. A question or request can be displayed on the screen. In addition to or instead of this, the question or  
 25 request can be output through a set of speakers or earphones to the person. The question or request would be repeated four times for each of the primary moods. That is, the programme might display the following series of requests:

- Choose your colour for "Happy" (or "Delight").
- 30 - Choose your colour for "Sad" (or "Reflection").
- Choose your colour for "Anger" (or "Caution").
- Choose your colour for "Fear" (or "Assertion").

Prior to or after displaying these requests, the programme or the  
 35 consulting physician might ask the person to focus on a particular subject. If



desired, the subject might be entered into the computer using the input device for later retrieval or comparison with other tests.

Once the colours for the four primary moods have been selected, the  
5 programme can then provide a means for the person to graphically represent their mood state.

As depicted in Figs. 4, 5 and 11(v), the screen 22 can display a circle 25  
that is able to be coloured in using the stylus 23. Other shapes that can be  
10 coloured in can be envisaged. In this regard, the touch screen 22 of the device 20 recognises the location of the stylus 23 and colours in the circle 25 on the screen in accordance with the movements of the stylus 23 by the person.

In this aspect, the device 20 or the physician may pose the statement  
15 "Please colour in a portion of the shape (circle) that is representative of happy" or similar. For example, a child that has been asked to focus on their feelings about school and who enjoys school may choose to fill a significant portion of the pre-defined area with a colour that has been selected by that child as representative of the primary mood "Happy", with much less of the area  
20 coloured in the colour selected for the primary mood state of "Sad", "Fear" or "Anger". For a child that does not enjoy school or is experiencing bullying at school, the reverse may be expected. This process is repeated for each of the primary moods until the pre-defined area is full.

25 The result is an electronically generated pie-chart or mood-pie 26 as depicted in Figs. 5 and 11(v) that is representative of the mood state of the person. This mood-pie can be stored in the storage device for later review and/or comparison with other tests.

30 The method 10 using the step 13 represented by Figs. 4-5 can be repeated on one or more occasions over a period of time. The period of time might constitute days, weeks, months or even years. Preferably, the person is asked to think about or mood-focus on the same subject each time and colour in a mood-pie representative of the primary moods. Any changes in the mood-  
35 pie over the period of time may be used as a guide to understanding the change in mood state of the person over that period of time.

As depicted in Figs. 6, 7 and 11(vi), the screen 22 can display a Cartesian plane 31 (or xy-plane) that allows the person to plot a mood-compass and/or mood-quadrangle as defined herein.

5

In Fig. 6, the person is asked to assign a number between 0 and 10 that is representative of the degree to which a primary mood is representative of their feelings about the subject of step 11. This may be repeated for each of the four primary moods defined herein.

10

The numbers chosen by the person are plotted on the axes of the Cartesian plane 31. In the depicted embodiment, the positive side of the y-axis is representative of "Happy" (or "Delight") while the negative side of the y-axis is representative of "Sad" (or "Reflection"). The positive side of the x-axis is representative of the primary mood "Fear" (or "Caution") while the negative side of the x-axis is representative of "Anger" (or "Assertion").

The use of the axes of the Cartesian plane in other combinations can be envisaged. For example, the primary moods "Happy" and "Sad" can instead be plotted on the x-axis while the primary moods "Fear" and "Anger" can be plotted on the y-axis.

In the embodiment, the person in focussing on a particular subject can select a number between 0 and 10 for each primary mood and then plot this number on the axes of the Cartesian plane 31. In the depicted embodiment, a coloured line (32a, 32b, 32c, 32d) is drawn from the origin of the Cartesian plane 31 to each of the plots. The colour of each of these lines is selected at step 14 in the manner depicted in Fig. 3. The result is four coloured lines (32a-32d) of individual length extending from the origin of the Cartesian plane 31. This set of four lines or "mood-compass" presents in graphical form the mood state of the person. As with the mood-pie described above, the process can be repeated on one or more occasions over a period of time, with the period of time constituting days, weeks, months or even years. Preferably, the person is asked to think about or mood-focus on the same subject each time and plot their primary moods and form a mood-compass. Any changes in the mood-

compass over the period of time may be used as a guide to understanding the change in mood state of the person over that period of time.

5 It will be appreciated that in forming the mood-compass, the number does not need to be between 0 and 10 and can instead be between any two numbers. In another embodiment, for example, the person may select a number between 0 and 100.

10 As depicted in Fig. 7, a quadrangle 33 can then be formed by joining the plots made on the Cartesian plane 31. This four-sided figure or "mood-quadrangle" 33 also presents in graphical form the mood state of the person. As with the mood-pie described above, the process can be repeated on one or more occasions over a period of time, with the period of time constituting days, weeks, months or even years. Again, preferably, the person is asked to think  
15 about or mood-focus on the same subject each time and plot their primary moods and form a mood-quadrangle 33. Any changes in the mood-quadrangle 33 (eg. shape and/or area) over the period of time may be used as a guide to understanding the change in mood state of the person over that period of time.

20 As depicted in Figs. 8 and 9, the graphical representation can be plotted on a Cartesian space (or xyz-space) 35 instead of just a Cartesian plane. In this regard, one or two of the primary moods may be plotted on a z axis of the Cartesian space 35. This has the potential of allowing the person to form three-dimensional representations of their mood state. As depicted in Fig. 8,  
25 this can be a three-dimensional mood-compass or as depicted in Fig. 9 a three-dimensional mood shape.

30 As with the mood-pie described above, the process depicted in Figs 8 and 9 can be repeated on one or more occasions over a period of time, with the period of time constituting days, weeks, months or even years. Preferably, the person is asked to think about or mood-focus on the same subject each time and plot their primary moods on the Cartesian space 35. Any changes in the shape of the three-dimensional representation over the period of time may be used as a guide to understanding the change in mood state of the person over  
35 that period of time.

The programme running on device 20 can automatically generate a mood-quadrangle 33 on completion of the mood-compass by the person. The mood-compass or mood-quadrangle 33 can be stored in the storage device for later review and/or comparison with other tests.

5

In yet another embodiment, the programme can allow the person to form a mood-ring 41 as depicted in Figs. 10 and 11(iv) by selecting coloured rings of desired dimensions on the screen 22 of the device 20. The mood-ring so formed can be stored in the storage device for later review and/or comparison  
10 with other tests.

To form the mood-ring 41, the person using the device 20 can be presented on the screen 22 with a set of coloured rings of varying diameters. In using these rings, the person can select a ring colour representative of a  
15 particular primary mood and then select from a range of sizes a ring of a particular diameter representative of the degree to which a primary mood is representative of their feelings about the subject of step 11. Generally, the greater the proportion a primary mood is representative of their feelings about said subject, the larger the ring diameter.

20

As depicted, the person will preferably be instructed to put together the set of concentric rings by starting with what they regard as their predominant primary mood about the subject of step 11 and then work inwardly placing smaller diameter rings representative of the other primary moods within the  
25 firstly selected largest ring to form a graphical representation of their mood state.

In the embodiment depicted in Fig. 10, the mood-ring 41 has been put together from three annular rings and a central disc. The outer ring 42 is  
30 representative of a first primary mood (eg. happy), the ring 43 immediately inward of the outer ring 42 is of a different colour and is representative of a different primary mood (eg. angry). The next inner ring 44 is of a still different colour and is representative of yet a different primary mood (eg. fearful) while the inner disc 45 is of a still different colour and representative of the final  
35 primary mood (eg. sad).

As with the mood-pie described above, the process of forming a mood-ring can be repeated on one or more occasions over a period of time, with the period of time constituting days, weeks, months or even years. Again, preferably, the person is asked to think about or mood-focus on the same  
5 subject each time and select and put together the mood-rings. Any changes in the mood-rings over the period of time may be used as a guide to understanding the change in mood state of the person over that period of time.

In addition to providing a means of graphically representing a mood  
10 state, the device 20 can be used to analyse the graphical representations and provide statistical analyses thereof. For example, the device 20 can allocate a score to each primary mood based on the graphical representation such that the total score adds to 10, or 100, or some other number. A so-called FASH (Fear/Anger/Sad/Happy) score or index can then be output by the device 20 as  
15 depicted in Fig. 11(vii). The scores from different methods of graphically representing the mood-state can also be compared.

While a computer based system for performing the method 10 as described above is envisaged as being preferred, it will be appreciated that the  
20 method 10 could be performed in other ways.

For example, in one embodiment, the graphical representation device could comprise paper having one or more circles 25 or other shapes provided thereon which are able to be coloured in to form a mood-pie 26 as defined  
25 herein. In another embodiment, the paper can have one or more Cartesian planes 31 or Cartesian spaces 35 provided thereon which can be used to form mood-compasses and/or mood-quadrangles as defined herein.

In this regard, the system preferably includes a set of coloured pencils  
30 that can be selected by the person, with the colour being representative of a primary mood.

In another embodiment, the graphical representation device can comprise a physical kit comprising a series of coloured rings. In a manner  
35 similar to what is displayed electronically in Fig. 10, the kit can include at least four different coloured sets of rings, which set comprising a relatively small

central disc 45 and three other rings (42-44), each of increasing dimension. As depicted in Fig. 10, the rings are preferably annular with the central disc 45 being circular.

5        In a preferred embodiment of the kit, the respective rings of a particular colour are sized such that they are concentrically positionable together. In this regard, the different coloured sets are preferably compatible in dimension so that the person can build up a series of concentric rings and a central disc representative of their mood state as defined herein.

10

      The present invention provides a person (with appropriate training) or a physician with a means of determining mood state and allowing monitoring and comparison of mood state over periods of time. The information provided by the present invention can then be used by the person and/or physician as one  
15    input in considering techniques for changing mood. In particular, it provides a person and their physician with a means of readily noting that their mood state has deteriorated and taking steps to adjust that before the onset of more serious disorders such as depression or bipolar disorder. It also provides a means of delivering positive feedback to a person attempting to improve their  
20    mood and so provide encouragement to continue the process.

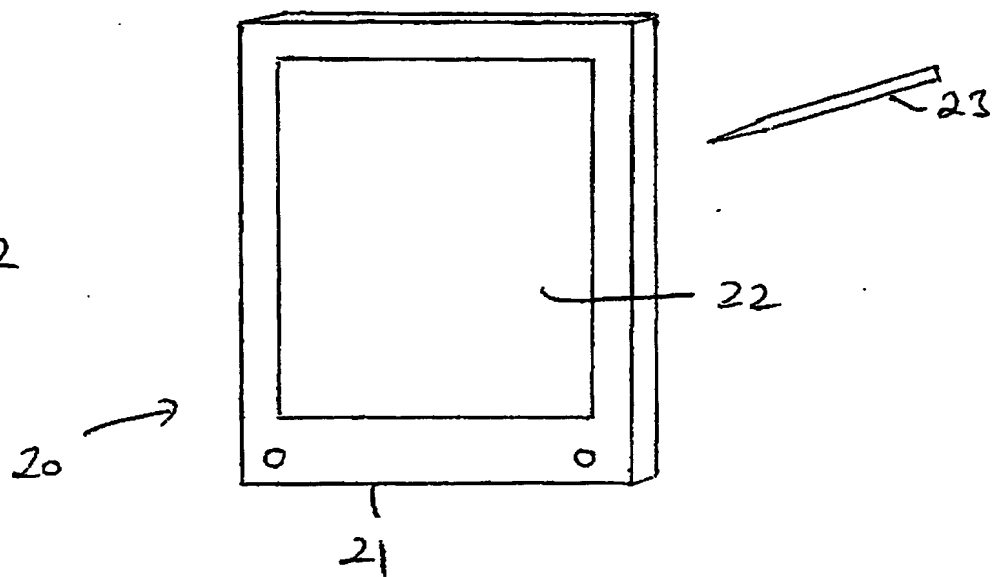
      It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the invention as shown in the specific embodiments without departing from the spirit or scope of the invention  
25    as broadly described. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.

Dated this twenty sixth day of September 2002

Anthony Durrell  
Patent Attorneys for the Applicant:

F B RICE & CO

FIG. 2



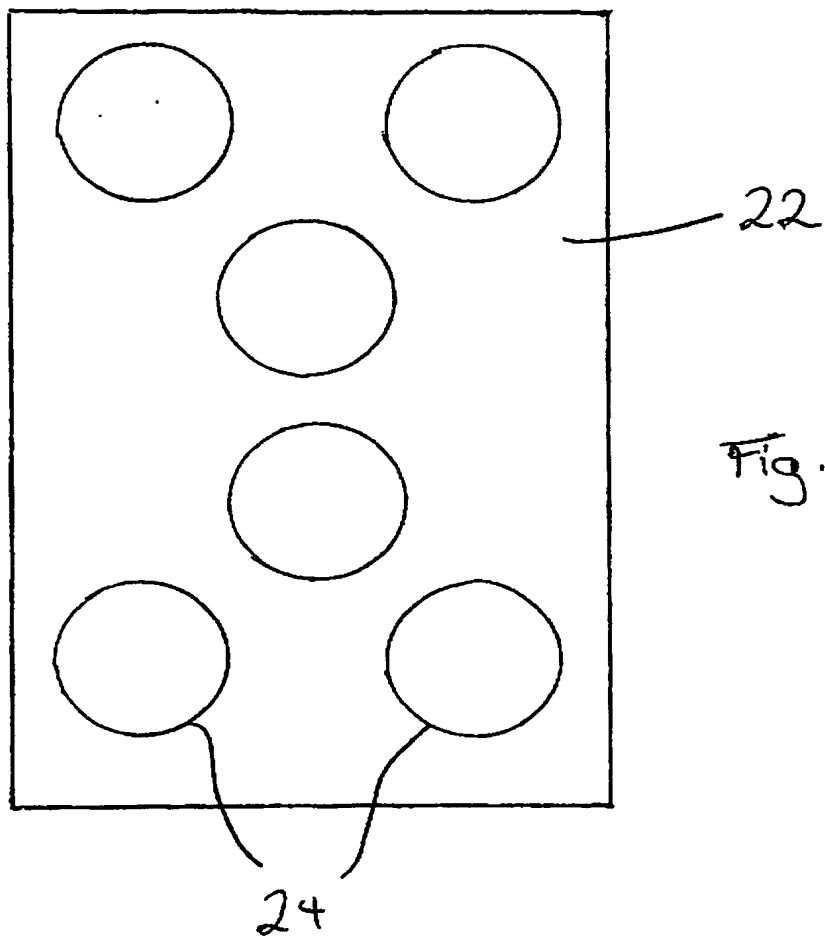


Fig. 3



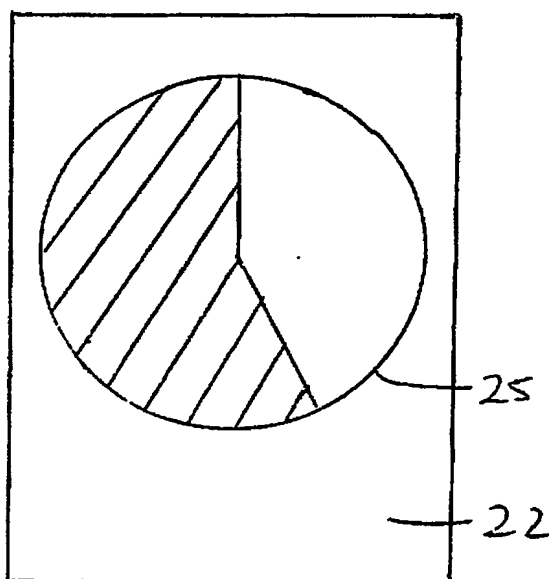


FIG. 4

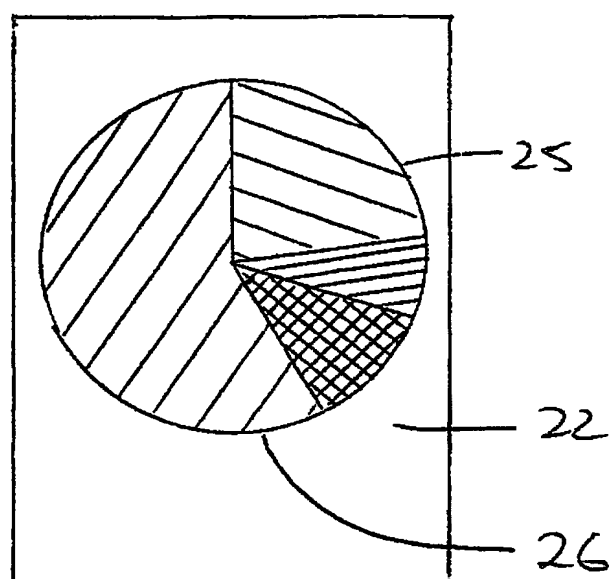


FIG. 5

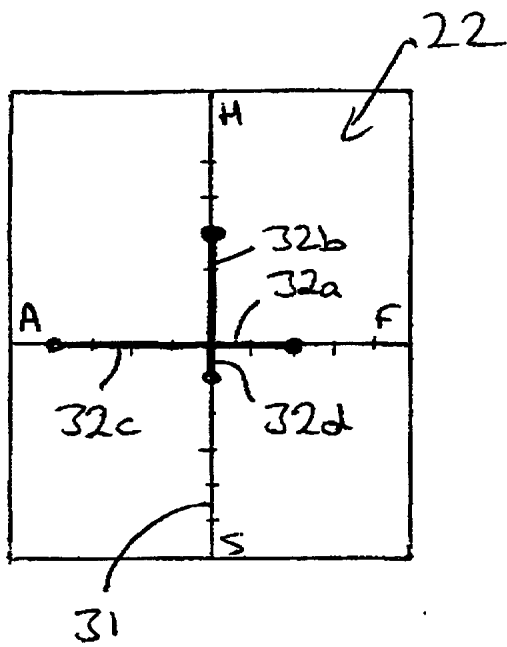


FIG. 6

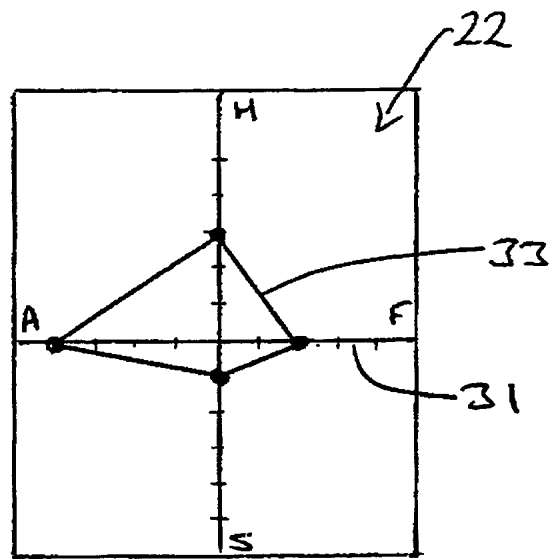


FIG. 7

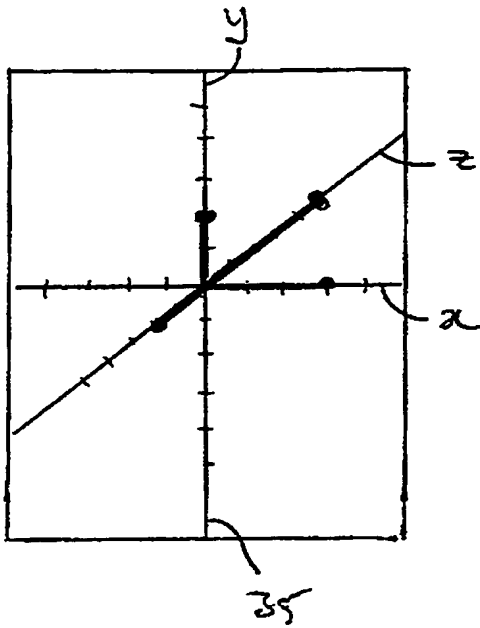


FIG. 8

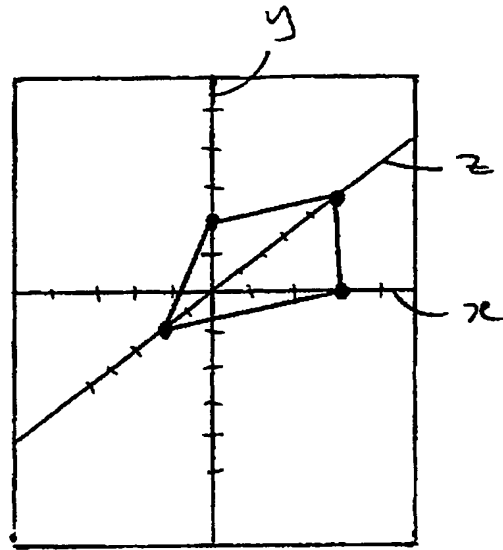


FIG. 9

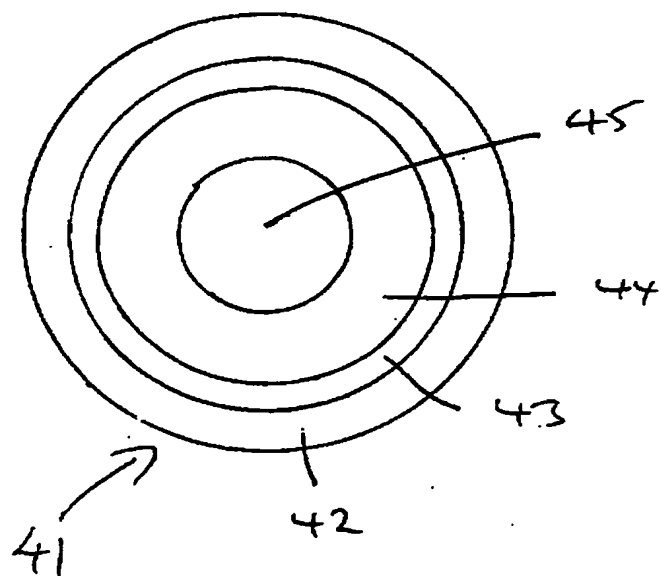


FIG. 10

Fig. 11(i)



Fig. 11(ii)

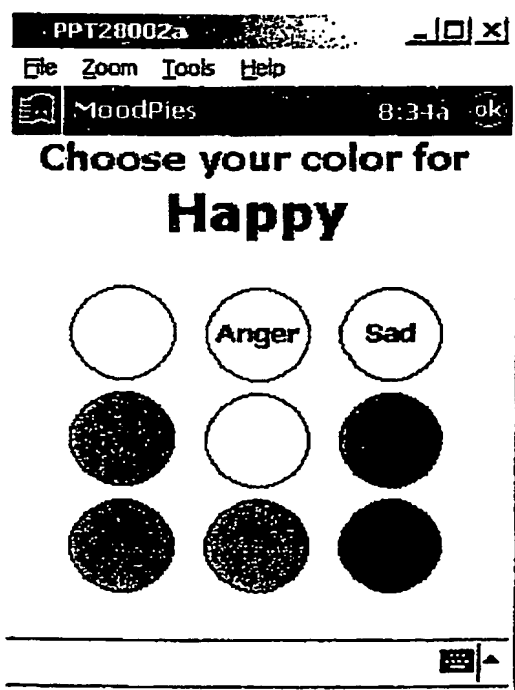
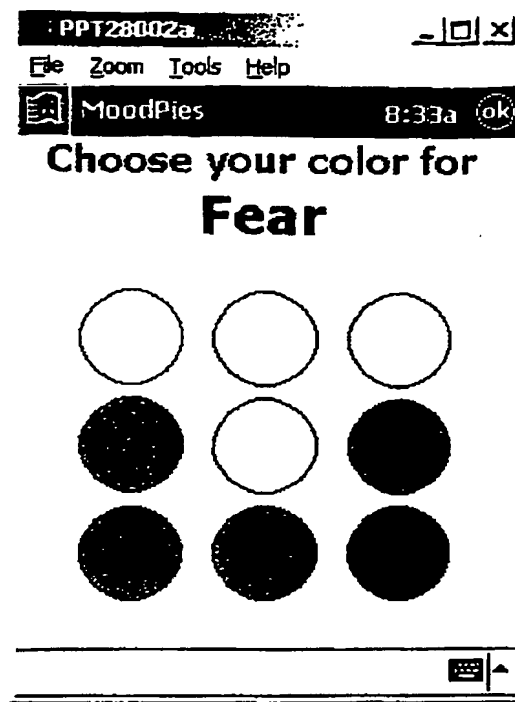


Fig. 11(iii)



Fig. 11(iv)

Fig. 11(v)

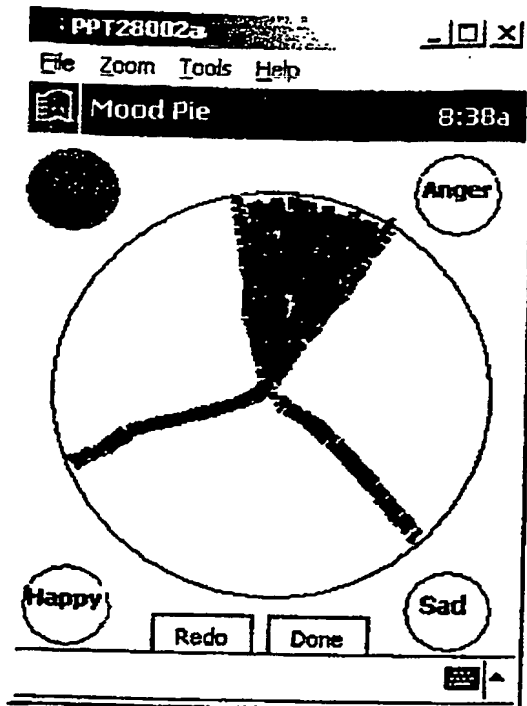


Fig. 11(vi)

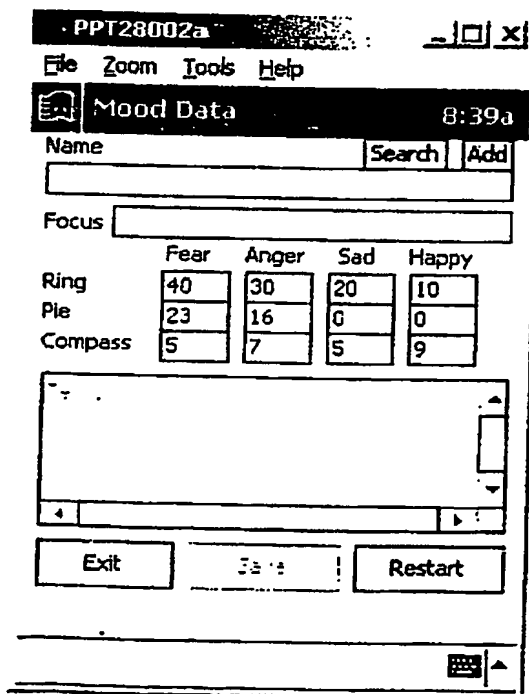
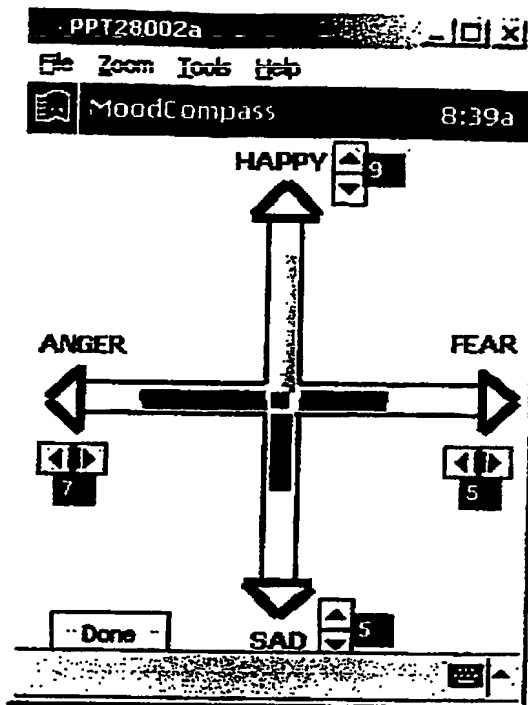


Fig. 11(vii)